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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/041,044	01/09/2002	Y. C. Lim	FS00-001	1978

28112 7590 06/23/2006

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EXAMINER	
DO, CHAT C	

ART UNIT	PAPER NUMBER
2193	

DATE MAILED: 06/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/041,044	LIM, Y. C.	
	Examiner	Art Unit	
	Chat C. Do	2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is responsive to Amendment filed 05/02/2006.

2. Claims 1-6 are pending in this application. Claims 1 and 4 are independent claims. This Office Action is made final.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Tan et al. (U.S. 6,233,594).

Re claim 1, Tan et al. disclose in Figure 4 a multichannel digital filter bank (110) comprising: a plurality of first order (e.g. 122, 124 in Figure 4) or second order digital filters, connected in a cascade fashion (e.g. 122 and 124 one after another) whereby electrical signals are enhanced, attenuated or kept the same (e.g. signal coming out from filter 124 in Figure 4 wherein the filtered electrical signals must be in either enhanced or improve, attenuated or distorted, or same signal), after passing through cascading sub-

filers, wherein first order or second order digital filters are of the recursive type (feedback as seen in 122 with delay z^{-1}) suitable for graphically equalizing electrical signals received via a communication path, and wherein first or second order digital filters do not require multiple sampling frequencies (e.g. col. 3 lines 45-65 wherein only one frequency is used per digital filter at a time).

Re claim 4, it is a method of claim 1. Thus, claim 4 is also rejected under the same rationale as cited in the rejection of rejected claim 1.

5. Claims 2 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Dyer (U.S. 4,947,360).

Re claim 2, Dyer discloses in Figures 1-2 a multichannel digital filter bank comprising: a plurality of first order (e.g. 1 and 3) or second order digital filters, connected in a cascade fashion (e.g. filter 1 is after filter 3) whereby electrical signals are enhanced, attenuated or kept the same (e.g. Figure 3 wherein the filtered electrical signals must be in either enhanced or improve, attenuated or distorted, or same signal), after passing through cascading sub-filers, wherein first order or second order digital filters are of the recursive type (e.g. in 1 with feedback signal) suitable for graphically equalizing electrical signals received via a communication path, first order or second order digital filters do not introduce additional delay of electrical signals received via communication path (e.g. inherently as relative delay), and wherein first or second order digital filters do not require multiple sampling frequencies (e.g. col. 3 lines 45-65 wherein only one frequency is used per digital filter at a time), wherein the transfer function is H(z) = {1-

$az^{-1}\}/\{1-bz^{-1}\}$ (e.g. B(z) equation in col. 2 line 29 wherein b = K_3 and a = $-(K_2K_4-K_3)$) ; wherein |a| and |b| are less than 1 (e.g. all values of coefficients are cited in Table 1 in col. 4 less than 1) and same sign.

Re claim 5, it is a method of claim 2. Thus, claim 5 is also rejected under the same rationale as cited in the rejection of rejected claim 2.

6. Claims 3 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Cox et al. (U.S. 5,353,346).

Re claim 3, Cox et al. disclose in Figure 2 a multichannel digital filter bank (e.g. 14H and 24H) comprising: a plurality of first order or second order digital filters (e.g. equation 50 in col. 3), connected in a cascade fashion (e.g. 14H and 24H) whereby electrical signals are enhanced, attenuated or kept the same (e.g. wherein the filtered electrical signals must be in either enhanced or improve, attenuated or distorted, or same signal) after passing through cascading sub-filers, wherein first order or second order digital filters are of the recursive type suitable for graphically equalizing electrical signals received via a communication path, and wherein first or second order digital filters do not require multiple sampling frequencies (e.g. col. 3 lines 45-65 wherein only one frequency is used per digital filter at a time), wherein the transfer function is $H(z) = \{1-2g\cos(p)z^{-1}+g^2z^2\}/\{1-2r\cos(p)z^{-1}+r^2z^2\}$ (e.g. H(z) in col. 3 line 50 wherein g = 1; r = beta; p = 2pif_estT as seen in col. 6 line 10).

Re claim 6, it is a method of claim 3. Thus, claim 6 is also rejected under the same rationale as cited in the rejection of rejected claim 3.

Response to Arguments

7. Applicant's arguments filed 05/02/2006 have been fully considered but they are not persuasive.

a. The applicant argues in page 7 last paragraph for claims 1 and 4 that the cited reference by Tan et al. fails to disclose a graphics equalizer and the filter does not require multiple sampling as cited in the claimed invention.

The examiner respectfully submits that claims 1 and 4 do not disclose a graphics equalizer but rather a filter is used for graphically equalizing signal, which technically is used to reduce the frequency distortion. The cited reference clearly disclose a filter for improving signal as reducing the frequency distortion (e.g. col. 1 lines 25-35 and col. 2 lines 1-10). In addition, the input signal into the system of filter is a single sampling frequency.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a graphics equalizer uses bandpass filter sections with programmable parameters which allow users to shape the frequency spectrum as required in lines 2-4 in the last paragraph) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

b. The applicant argues in page 8 second paragraph for claims 2 and 5 that the cited reference by Dyer fails to disclose a graphics equalizer as cited in the claimed invention.

The examiner respectfully submits that claims 1 and 4 do not disclose a graphics equalizer but rather a filter is used for graphically equalizing signal, which technically is used to reduce the frequency distortion. The cited reference clearly disclose a filter for improving signal as reducing the frequency distortion (e.g. col. 1 lines 8-15 and lines 35-45).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "there is no additional delay of the inbound signal" in line 8) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

c. The applicant argues in page 9 first paragraph for claims 3 and 6 similarly that the cited reference by Cox fails to disclose a graphics equalizer as cited in the claimed invention.

The examiner respectfully submits that claims 1 and 4 do not disclose a graphics equalizer but rather a filter is used for graphically equalizing signal, which technically is used to reduce the frequency distortion. The cited reference clearly disclose a filter for improving signal as reducing the frequency distortion.

In general, the current claim language is too vast in which all the cited above reference either inherently or expressively meets all the limitations.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (571) 272-3721. The examiner can normally be reached on M => F from 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do
Examiner
Art Unit 2193

June 15, 2006

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